Botany report for

# **Magalia Fire Salvage Project**

(Short form Biological Evaluation/ Biological Assessment/ Noxious Weed Risk Assessment)

By Lawrence Janeway, District Botanist Feather River Ranger District 3/21/2019

My assessments, below, are based on Feather River RD GIS layers and other available records for survey areas, occurrences of species of conservation concern (rare plants: USFWS Threatened or Endangered, FS Sensitive, and PNF Watch List), and infestations of non-native invasive plants (NNIP).

#### PROJECT DETERMINATION SUMMARY

Survey summary: COMPLETE.

Species of conservation concern (rare plants) summary:

• There are no concerns for species of conservation concern with implementation of the Management Requirements during project implementation (see Appendix A).

Proposed Special Interest Areas summary:

 Project activities will not adversely affect the suitability of the McNab Cypress Proposed SIA for potential future designation as a formal SIA.

Non-native invasive plants (NNIP) summary:

Concerns about NNIP in the project area are being addressed as part of project design with an
integrated pest management program that meets the purpose and need for the project (see
Appendices A and B).

#### **PROJECT DESCRIPTION**

#### PROPOSED PROJECT ACTION AND DESCRIPTION.

Areas along Coutolenc Road and Lucretia Road and around Paradise Lake area were burned severely in the Camp Fire (November 8-25, 2018). Tree mortality has occurred in areas of high and mixed fire severity. We propose to log the trees that have died, will die and were skinned up severely in dozer line operations. These dead, dying, and structurally damaged live trees present an imminent safety hazard and risk to forest visitors, neighboring landowners and their homes, employees and facilities. This project includes the identification and removal of hazard trees with an approximate volume of 600 MBF.

The project includes mixed conifer species: ponderosa pine, white fir, incense cedar, sugar pine, Douglas-fir, madrone, tan-oak, and black oak. It is proposed to salvage these trees in the spring of 2019 using conventional or mechanical tractor logging practices. Approximate size for the Magalia project is 178 acres.

Re-entry may occur up to 3 years to remove any additional danger trees for additional volume.

#### **SURVEYS**

The project area has been completely surveyed for plant species of conservation concern (USFWS T&E, FS Sensitive, and PNF Watch List) and non-native invasive plants (NNIP), some areas more than once, by various Forest Service botanists between 2004 and 2016 as part of project planning for earlier projects:

- 051103 2004 001 in 2004 for a Paradise Lake Salvage Project
- 051103\_2005\_004 in 2005 for Flea DFPZ (which became Concow Hazardous Fuels Reduction)
- 051103 2006 009 in 2006 for Flea DFPZ (which became Concow Hazardous Fuels Reduction)
- 051103 2016 012 in 2016, roadsides only, for NNIP

Survey summary: COMPLETE.

# **SPECIES OF CONSERVATION CONCERN (RARE PLANTS)**

One species of Forest Service Sensitive plants and one species of Plumas NF Watch List plants are known from within the project area (Table 1). Table 1 includes notes about the acres of distribution of each species within the project area and Management Requirements to ensure that no significant impacts would result from project implementation. The specific Management Requirements are summarized in Appendix A.

Table 1. Forest Service Sensitive and Plumas NF Watch List plant species found within the project area.

Scientific name	Common name	Manage- ment category <sup>1</sup>	Acres within project	Percent acres protected	Project design features <sup>2</sup>
Calystegia atriplicifolia	Butte County	Watch List	0.2	100%	Protect in Controlled
ssp. buttensis	morning-glory				Areas
Fritillaria eastwoodiae	Butte County	Sensitive	0.5	100%	Protect in Controlled
	fritillary				Areas

<sup>&</sup>lt;sup>1</sup>In general Forest Service Sensitive species have stricter management requirements due to their greater level of rarity and their designation as Sensitive by the Regional Forester (USDA Forest Service 2013), compared to Watch List species which are designated by the Plumas NF Forest Supervisor (USDA Forest Service 2014).

- Butte County morning-glory (Calystegia atriplicifolia ssp. buttensis PNF Watch List species).
  - This rhizomatous perennial species is known from one small occurrence in the unit north of Lucretia Road, totaling about 0.2 acre. This site has not been revisited since its first report in 2005. If possible, its presence should be assessed when the site is flagged as a Controlled Area
  - This species is generally visible from May through August. It grows best in somewhat open forest, but does not do well in shady situations.
  - PNF Management Prescription for this species (USDA Forest Service 2014) says to:
     Evaluate all project activities on a site-by-site basis considering species abundance, population size, geographic distribution, and known species ecology. Focus on protecting plants in natural openings from ground disturbance, although light ground disturbance outside of the growing season may be acceptable. Canopy removal and prescribed fire in

<sup>&</sup>lt;sup>2</sup>See the Management Requirements summary below for details of these protocols.

and adjacent to occurrences is encouraged to open the habitat and to maintain suitable habitat.

- Since there is only one small location of Butte County morning-glory within this project area the site should be protected from ground disturbance. Establish a Botany Controlled Area to prevent physical impacts to the Butte County morning-glory plants.
- MANAGEMENT REQUIREMENTS for Butte County morning-glory. The one occurrence of Butte County morning-glory would be protected within a Botany Controlled Area.
- Butte County fritillary (Fritillaria eastwoodiae FS Sensitive species).
  - This bulbiferous perennial is known from three small occurrences widely scattered within the units bordering Lucretia Road, totaling less than 0.5 acre. Some of these sites have not been re-located within recent years, either because they were mapped before the availability of GPS and searches haven't been in the same location, or because over the years the areas have been so thoroughly shaded that the plants have faded away in senescence. These will be searched for again this coming spring when flagging the Controlled Areas for them.
  - This species is generally only visible from April to May. It grows best in somewhat open forest, but does not do well in full sun or in shady situations. It generally does well following underburns or light fire.
  - O PNF Management Prescription for this species (USDA Forest Service 2014) says to: Protect occurrences from surface disturbance until above ground plant parts are dormant in late summer to fall. Do not disturb bulb. Maintain partial shade conditions. Hand thin and lop and scatter around known occurrences if fuel treatment prior to burning is needed. Investigate the use of prescribed fire and mastication as a management tool and monitor effects. To the extent possible, avoid ignitions within occurrences and avoid building fire control lines in or near occurrences. Also, allow fire to creep/back into occurrences from adjacent terrain if the fuel loading permits. Evaluate other activities on a site-by-site basis considering species abundance, population size, geographic distribution, and known species ecology.
  - There are only three small scattered locations of Butte County fritillary within this project area. Establish Botany Controlled Areas to prevent physical impacts to the Butte County fritillary plants and bulbs.
  - MANAGEMENT REQUIREMENTS for Butte County fritillary. All occurrences of Butte County fritillary will be protected within Botany Controlled Areas. These Controlled Areas will need to be established in mid-April, when the exact locations of these plants can be confirmed.
  - FS Sensitive plant species project activities will not affect:
    - All Butte County fritillary plants would be protected within Botany Controlled Areas.

Species of conservation concern (rare plants) summary:

• There are no concerns for species of conservation concern with implementation of the Management Requirements that are built into the project design (see Appendix A).

## **PROPOSED SPECIAL INTEREST AREA**

## McNab Cypress Proposed Special Interest Area.

The salvage unit along Coutolenc Road east of Magalia Reservoir is within this proposed SIA.

- PNF Management of proposed SIAs (USDA Forest Service 1996) is that:
  - The integrity and suitability of these areas for designation as Special Interest Areas are to be protected. All projects with potential to effect these areas will include an appropriate analysis of the potential effects for each alternative. A decision notice for any selected alternative will include in its Finding of No Significant Impact a determination that the selected alternative would not adversely affect the suitability of the area for designation as a Special Interest Area.
- The special characteristics of this proposed SIA are:
  - It contains a unique serpentine plant community dominated by McNab Cypress [a PNF Watch List species], a relict species now restricted to scattered locations on serpentine derived soils. Some of the oldest known specimens were found here. A population of the rare Eastwood's Fritillary [now called Butte County fritillary] occurs here [plus numerous other FS Sensitive and PNF Watch List species]. The site is visited by university and junior college classes [and the general public] and is both visible and easily accessed from the Skyway in Magalia.
- This salvage unit has been designed to specifically avoid the serpentine vegetation portion of this proposed SIA. Thus the planned salvage activities here will not affect the characteristics for which this area is proposed.
- To ensure that project activities do not inadvertently encroach upon this serpentine vegetation
  and its concentration of rare species, this area would be flagged as a Botany Controlled Area and
  be completely avoided by all project activities.
  - Note that a similar area of serpentine vegetation (not a proposed SIA) adjacent to salvage units just downstream from Paradise Lake will be similarly flagged as a Botany Controlled Area.

# Proposed Special Interest Areas summary:

• Project activities will not adversely affect the suitability of the McNab Cypress Proposed SIA for potential future designation as a formal SIA.

# **NON-NATIVE INVASIVE PLANTS (NNIP)**

Three species of NNIP are known from within this project area: yellow star-thistle (*Centaurea solstitialis*), French broom (*Genista monspessulana*), and Spanish broom (*Spartium junceum*) – see Table 2. Sporadic efforts have been made over the years to pull and control the French broom and Spanish broom in this area, but have not systematic enough to eradicate the species. No work has been done to date on the yellow star-thistle here. See Appendix A, Management Requirements, for measures to prevent the spread of these species, and to pull them when time and funding allows.

Table 2. Acres of each of the three species of NNIP found within the project area.

Species	CDFA	Acres	Comments about distribution within
	category		project area
yellow star-thistle	C-List	0.4	One small site at a former shooting
(Centaurea solstitialis)			range facility

French broom	C-List	4.0	Scattered along roads, along the old
(Genista monspessulana)			railroad grade, with a dense infestation
			along the railroad grade at Coutolenc
			Road
Spanish broom	C-List	0.1	One small site along the old railroad
(Spartium junceum)			grade, and adjacent to the project area
			at the McNab Cypress Proposed SIA

<sup>&</sup>lt;sup>1</sup> The California Department of Food and Agriculture's noxious weed list (CDFA 2019a) divides noxious weeds into categories A, B, and C (CDFA 2019b): A-listed weeds are those for which eradication or containment is required at the state or county level; B-listed weeds are those where eradication or containment is at the discretion of the County Agricultural Commissioner; and C-listed weeds require eradication or containment only when found in a nursery or at the discretion of the County Agricultural Commissioner.

# • French broom (Genista monspessulana) and Spanish broom (Spartium junceum).

- o French broom is known from numerous mostly small infestations in or near to most of the salvage units. The densest infestation is where the old railroad grade comes to Coutolenc Road as it approaches Skyway. Spanish broom is known from a site along the railroad grade closer to Paradise Lake, and just outside of the unit next to the serpentine C.A. for the Mc Nab Cypress Proposed SIA. Care needs to be taken to not spread these weeds into salvage units see the Management Requirements table in Appendix A for prevention measures.
- French broom and Spanish broom are perennial shrubs in the pea family. They generally grow in sunny sites with dry sandy soil, and can spread rapidly through pastures, borders of forests, and roadsides. French broom and Spanish broom can be found from the California coast to the foothills of the Sierra Nevada and the Cascade Range. These weeds crowd out native species, have a seed-bank that can remain dormant for up to 80 years, diminish habitat for grazing animals, and increase risk for wildland fires (Cal-IPC 2019). French broom and Spanish broom are troublesome weeds that are widely distributed in the lower elevations on the western side of the Plumas NF, such as the project area and on surrounding private lands.

# Yellow star-thistle (Centaurea solstitialis).

- Yellow star-thistle is known from one site within the project area. This is a disturbed area in a former shooting range facility just off of the road to Paradise Lake. This site should be flagged, avoided by project personnel and equipment, and the plants pulled when time allows (see the Management Requirements table in Appendix A).
- Yellow star-thistle is an annual species in the sunflower family. Plants start out as rosettes of basal leaves in the winter, and in the late spring and through the summer they send up a many-branched stem 3 to 4 or more feet tall, with spiny flower heads at the tip of each branch. This species propagates rapidly by seed, and a large plant can produce nearly 75,000 seeds. Yellow star-thistle has invaded 12 million acres in California, where it inhabits open hills, grasslands, open woodlands, fields, roadsides, and rangelands, and it is considered one of the most serious rangeland weeds in the state. It is a serious nuisance on recreational lands, degrades the value of private property, range and timber lands, is toxic to horses, and poses a major threat to biodiversity in native ecosystems (CDFA 2018a). However, yellow star-thistle is not yet widespread in the Sierra Nevada, and an active multi-agency program is in place to locate and eliminate occurrences as they creep up into the mountains (e.g. the Yellow Starthistle Leading Edge Project). Although seeds can survive up to 10 years in the

field, few seeds survive beyond three or four years; thus an infestation of yellow star-thistle can often be eliminated with three years of preventing seed set (DiTomaso et al. 2013). Pulling is usually effective in controlling this species except where growing in hard-compacted ground where plants may break off at the base and resprout. Yellow star-thistle is still uncommon on the Feather River RD, and its spread is actively discouraged by pulling plants whenever possible.

French broom and Spanish broom are by far the greatest NNIP concern within the project area (Table 2), although yellow star-thistle is always threatening to move from the Sacramento Valley where it is abundant into the mountains. Mechanical treatments for French broom and Spanish broom, mostly by pulling them, are continuing within the project area under various previous project planning and implementation, although progress is slow. Management Requirements for the Magalia Fire Salvage Project are designed to prevent the spread of all NNIP into new areas and to continue treatments intending to slowly reduce the overall infestations (see Appendix A).

Consider developing a program of integrated pest management that includes the use of herbicides to greatly increase control of French broom and Spanish broom within the project area. The Camp Fire, while killing most of the adult broom plants in the project area, has likely stimulated sprouting of the long-lived seed bank these species produce. The resulting masses of seedlings can be more thoroughly treated with Triclopyr or Glyphosate than can be accomplished mechanical means (hand-pulling).

Non-native invasive plants (NNIP) summary:

• Concerns about NNIP in the project area are being addressed as part of project design with an integrated pest management program that meets the purpose and need for the project (see Appendices A and B).

#### **REFERENCES**

Cal-IPC. 2019. California Invasive Plant Council Cal-IPC. Invasive Plants > Invasive Plant Management > plant profiles > Plant Profiles. Web search page at www.cal-ipc.org/ip/management/plant\_profiles/index.php. Last accessed 2/12/2019.

CDFA. 2019a. Encycloweedia: Data Sheets.

www.cdfa.ca.gov/plant/ipc/encycloweedia/weedinfo/winfo\_table-sciname.html. State of California, Department of Food and Agriculture, Division of Plant Health & Pest Prevention Services. Accessed 2/12/2019.

CDFA. 2019b. Encycloweedia: Weed Ratings.

www.cdfa.ca.gov/plant/ipc/encycloweedia/winfo\_weedratings.html. State of California, Department of Food and Agriculture, Division of Plant Health & Pest Prevention Services. Accessed 2/12/2019.

DiTomaso, J.M., G.B. Kyser, and et al. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California, Davis. 544 pp.

USDA Forest Service. 1996. Proposed Special Interest Areas. Memo from Mark J. Madrid, Forest Supervisor, to District Rangers and SO Staff. Dated January 25, 1996.

USDA Forest Service. 2004. Record of Decision Sierra Nevada Forest Plan Amendment. USDA Forest Service Pacific Southwest Region, Vallejo, CA (January).

USDA Forest Service. 2013. 2013 Sensitive Plant List. Pacific Southwest Region, Region 5. Letter from Regional Forester Randy Moore. File Code: 2670. Dated July 3, 2013.

USDA Forest Service. 2014. Plumas National Forest Interim Management Prescriptions for Threatened, Endangered, Sensitive and Special Interest [Watch List] Plants. Memo from Earl W. Ford, Forest Supervisor, to District Rangers. Dated October 16, 2014.

# APPENDIX A BOTANY Management Requirements for the Magalia Fire Salvage Project.

Potential	Management Requirements Designed to Reduce or	Responsible Person(s)
Resource(s)	Prevent Adverse Effects	
Affected Rare Plants -	Botany Controlled Areas (CAs) have been established for	Botanist, Project
Conservation	the protection of rare plants.	Implementation Teams,
	Controlled Areas for Butte County fritillary and Butte	Contract
	County morning-glory: NO GROUND DISTURBANCE and	Administrators
	NO BURN PILES allowed within these small Controlled	
	Areas.	
	There are four of these small CAs, three for Butte	
	County fritillary and one for Butte County morning-	
	glory, within the salvage units near Paradise Lake.  • Controlled Areas for serpentine vegetation and	
	associated rare plants. STAY OUT.	
	<ul> <li>There are two of these large CAs along the edges,</li> </ul>	
	but outside of, two salvage units. One of these CAs	
	also protects Proposed Special Interest Area	
	characteristics.	
	In certain situations the project implantation team	
	may consult with the botanist regarding potential small impacts within these Controlled Areas.	
Rare Plants -	Botany Controlled Areas will be shown on the project	Botanist,
Conservation	implementation maps, and be flagged on the ground by	Implementation Team,
	red-and-black-stripe and blue-and-black-stripe flagging	and Contract
	always tied together.	Administrator
	Contact the District Botanist prior to project	
	implementation to ensure that flagging is in place and	
	refreshed as necessary.	
	Any new locations of rare plants found during project     Any new locations of rare plants found during project	
	layout and implementation should be designated as CAs and be managed as itemized above.	
Non-native	Ensure that all plant material and fill material used for	Botanist,
Invasive Plants	erosion control and/or road maintenance is free of NNIP,	Implementation Team,
(NNIP) -	including straw, mulch, gravel, and rock (certified weed-	and Contract
Prevention	free).	Administrator
Non-native	Clean all off-road equipment entering the project area if it	Botanist, Fuels Officer,
Invasive Plants	may be coming from areas infested with nonnative invasive	Project Implementation
(NNIP) - Prevention	plants (NNIP).	Teams, Contract Administrators
Non-native	To the greatest extent feasible keep all equipment, vehicles,	Botanist, Fuels Officer,
Invasive Plants	and supplies out of areas of known NNIP infestations,	Project Implementation
(NNIP) -	including any NNIP infestations along access routes and	Teams, Contract
Prevention	new infestations that may be discovered during project	Administrators
	implementation. NNIP infestations may sometimes be	
	flagged with bright orange "noxious weed" flagging.	
	Any equipment, vehicles, and supplies that do come in     contact with NNIR infectations (plants or the ground)	
	contact with NNIP infestations (plants or the ground close to them) during project implementation should	
	be thoroughly cleaned of dirt, mud, and plant debris	
	be thoroughly dealled of unit, mud, and plant debits	l

Potential Resource(s) Affected	Management Requirements Designed to Reduce or Prevent Adverse Effects	Responsible Person(s)
	<ul> <li>before entering any un-infested project area.</li> <li>Hand cutting of broom plants and placement of burn piles on top of NNIP infestations is encouraged.</li> <li>New infestations should be mapped and reported to the District Botanist.</li> </ul>	
Non-native Invasive Plants (NNIP) - Prevention	<ul> <li>Members of the project implementation teams (layout crew, contract administrator, etc.) should watch for and be able to recognize NNIP.</li> <li>As time allows, pull some or all of NNIP encountered during project activities (avoiding archaeology controlled areas).</li> <li>New infestations should be mapped and reported to the District Botanist, and flagged and avoided.</li> </ul>	Botanist, Project Implementation Teams, Contract Administrators
Non-native Invasive Plants (NNIP) - Prevention	<ul> <li>Monitor areas of project related ground disturbance (e.g. skid trails, temp roads, landings, trails, etc.) for NNIP for up to 10 years following project implementation.</li> <li>As funding becomes available, new and old infestations of NNIP should be pulled or otherwise treated.</li> <li>New infestations should be mapped and reported to the District Botanist.</li> </ul>	Botanist and Implementation Team

# Appendix B General Herbicide Use Design Features

If a program of integrated pest management that includes the use of herbicides becomes part of the Magalia Fire Salvage Project, the following design criteria to protect human health, water quality, and natural resources will be incorporated into the proposed action. Herbicides would be applied in accordance with: 1) product label directions; 2) California Department of Pesticide Regulation requirements; 3) Forest Service best management practices for water quality (USDA Forest Service 2011); and 4) Forest Service direction (FSM 2900, 2150 and 2200) and Handbook (FSH 2109.14). This project will include a Pesticide Use Spill Plan. Prior to any herbicide use, a Pesticide Use Proposal (PUP) (FS-2100-2) and safety plan (FS-6700-7) will be completed by the project leader and approved by the Responsible Official. These documents will be included in the project record.

- Specific design features, best management practices, and mitigation measures are summarized in the table below.
- A June 20, 2014, Presidential Memorandum recommends additional best management practices
  to promote the health of honey bees and other pollinators. To address this recommendation,
  the U.S. Department of Agriculture and U.S. Department of the Interior have developed best
  management practices to protect pollinators when implementing management activities,
  including pesticide treatments (USDA and USDI 2015). Although not yet required, these best
  management practices would be followed and are consistent with the project design features
  for this project.

**Triclopyr** (trade names include Garlon<sup>TM</sup> 3A, Milestone VM Plus). This herbicide provides pre-and post-emergence control of woody and broadleaf plants and re-sprout control as stump treatment on woody plants. It is selective and has little impact on grasses. It can reside in soils for up to 6 months. Triclopyr can be used in combination with aminopyralid in a pre-mixed formulation (e.g. Milestone VM Plus).

**Glyphosate** (trade names include Accord®, Aquamaster®). This is one of the most widely used herbicides available. It is non-selective (broad spectrum), so it may injure non-target plants. It provides only postemergent control and is not absorbed through roots. It is non-persistent and relatively immobile in soil, although it can remain in soil for 4 to 8 months. This non-persistence and relative immobility in the soil means that glyphosate is often the most environmentally benign of the commonly used herbicides. Plants treated with glyphosate can take several weeks to die; repeat application is often necessary to remove plants that were missed during the first application.

• There has been some controversy and public alarm recently concerning safety issues in the use of glyphosate. Disparate reporting by various public agencies and NGOs regarding potential risks to applicators and to the public has led to much confusion around this issue. The California Invasive Plant Council (Cal-IPC), a non-profit organization, has prepared a "fact sheet and position statement" summarizing all best-available science and policy on this issue (Cal-IPC 2017). Cal-IPC summarizes its policy on the use of glyphosate thus: "Cal-IPC supports the use of glyphosate in invasive plant management as part of an of Integrated Pest Management (IPM) approach. When using glyphosate according to the label, with appropriate personal protective equipment and best practices, glyphosate is low-risk for wildlife, applicators and the public."

ID	Project design feature	Purpose
1	Herbicide application will comply with product label directions and applicable legal requirements.	To avoid or minimize the risk of soil, surface water, or groundwater contamination.  To minimize risk to special status plants and wildlife as well as other biological resources.  To ensure compliance with legal requirements.  Compliance with BMP 5.8 (USDA Forest Service 2011)
2	Herbicide formulations would be limited to those containing one or more of the following five active ingredients: aminocyclopyrachlor, aminopyralid, chlorsulfuron, clopyralid, and triclopyr.	To minimize potential adverse effects on workers, forest users, and resources.
3	Herbicide applications would only treat the minimum area necessary to meet site objectives.	To minimize potential adverse effects on workers, forest users, and resources.
4	Herbicide application methods are limited to select (e.g. low pressure hand sprayer, wicking, wiping, stem injection) and directed spray (use of backpack sprayer or hand held nozzle to aim application at specific target species), as permitted by the product label and project design features. No aerial herbicide applications will occur (USDA and USDI 2015).	To minimize potential adverse effects on workers, forest users, and resources.
5	Spray application drift control measures:  1) Only ground based equipment will be used 2) All applications will cease when weather conditions exceed those on the label 3) Applications will not be performed when the National Weather Service forecasts a greater than 70 percent probability of measurable precipitation (greater than 0.1 inches) within the next 24 hour period 4) Applications will cease when wind speed exceeds 10 mph 5) Spray nozzles will produce a relatively large droplet size (500-800 microns) 6) Low nozzle pressures will be used (15 psi) 7) Spray nozzles will be kept within 24 inches of target vegetation during spraying 8) A pressure gauge or pressure regulator will be required on each backpack sprayer	To minimize the risk of pesticide drift onto water or non-target areas, in order to minimize impacts to water quality, special status plants and wildlife, non-target vegetation, and other biological resources (e.g. pollinators, aquatic organisms).  Compliance with BMP 5.13 (USDA Forest Service 2011) and BMPs regarding pollinators (USDA and USDI 2015)
6	Herbicides will be applied by trained and/or certified applicators in accordance will label instructions and applicable federal and state pesticide laws. Mixing of herbicides will be supervised onsite by, at a minimum, a Qualified Applicator certified by the State of California.	To establish the level of trained / certified personnel for herbicide applications.
7	Personal Protective Equipment (PPE) will be used in accordance with the product label and California Department of Pesticide Regulation requirements.	To minimize potential adverse effects to workers.
8	Chemicals will be stored in designated storage facilities consistent with FSM 2109.14, Chapter 40. Unused herbicides will be disposed of in accordance with the product label and FSM 2109.14, Chapter 40. If the product label and FSM differ, the more restrictive storage and disposal guidelines will be followed.	To minimize potential adverse effects on workers, forest users, and resources. Compliance with BMP 5.11 (USDA Forest Service 2011).
9	No directed spray or broadcast herbicide application will occur on weekend days between Memorial Day and Labor Day in recreation sites (campgrounds, trailheads, and dispersed camping areas).	To minimize potential adverse effects on forest users.
10	For herbicide treatment within 100 feet of recreation sites (campgrounds, trails, and trailheads), cautionary notice signs will be posted at the recreation site prior to herbicide treatments.	To inform and to minimize potential adverse effects on forest users.

#### **APPENDIX B REFERENCES**

Cal-IPC. 2017. California Invasive Plant Council Cal-IPC. Cal-IPC Fact Sheet and Position Statement – The Use of Glyphosate for Invasive Plant Management. www.cal-ipc.org/wp-content/uploads/2017/11/Cal-IPC-glyphosate-policy.pdf

USDA Forest Service. 2011. Best Management Practices (BMP) Soil and Water Quality Management Handbook Amendment - 2509.22\_10. FSH Amendment, Vallejo: USDA Forest Service, Vallejo, CA.

USDA and USDI. 2015. Pollinator-Friendly Best Management Practices for Federal Lands. US Department of Agriculture and US Department of Interior, May 11, 2015 (In response to Presidential Memorandum of June 20, 2014). Available online: http://www.fs.fed.us/wildflowers/pollinators/BMPs/